(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization

International Bureau



(43) International Publication Date 25 August 2005 (25.08.2005)

PCT

(10) International Publication Number WO 2005/078241 A1

- (51) International Patent Classification⁷: F01C 1/16, 21/16, F01K 25/10, F04C 29/10, F25B 1/047, 11/02
- (21) International Application Number:

PCT/SE2005/000130

- (22) International Filing Date: 3 February 2005 (03.02.2005)
- (25) Filing Language:

Swedish

(26) Publication Language:

English

- (30) Priority Data: 0400350-5
- 17 February 2004 (17.02.2004) S
- (71) Applicant (for all designated States except US): SVEN-SKA ROTOR MASKINER AB [SE/SE]; P. O. Box 15085, S-104 65 Stockholm (SE).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): ÖHMAN, Henrik [SE/SE]; Adolf Lemons väg 11, S-187 76 Täby (SE).
- (74) Agents: WIEDEMANN, Bernd et al.; P.O. Box 15085, S-104 65 Stockholm (SE).

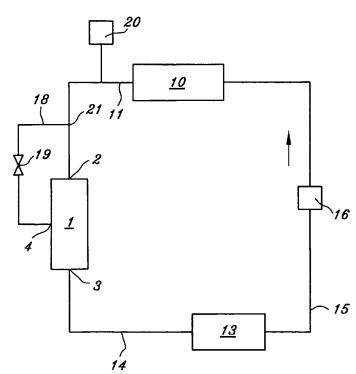
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

with international search report

[Continued on next page]

(54) Title: METHOD AND MEANS FOR CONTROLLING A FLOW THROUGH AN EXPANDER



(57) Abstract: The present invention relates to method of controlling the flow of working medium through an expansion device (1) for use in a closed heating system. In addition to the expansion device (1), the system also includes a condenser (13), a pump (16) and a boiler (10), wherein the expansion device consists in a helical screw rotor expander (1) that has an inlet port (2) an inlet line (11) connected thereto, and an outlet port (3). The expansion device drives an energy producing device (G), for instance a generator. The method is characterized by providing the helical screw rotor expander (1) with an intermediate pressure port (4) between the inlet port (2) ad the outlet port (3), by connecting the intermediate pressure port (4) with the inlet line (11) via a branch line (18) between the intermediate pressure port (4)and a branching point (21) in the inlet line, by including a valve (19) in the branch line (18), and by controlling the flow of working medium through the valve (19) to the intermediate pressure port (4) as a function of a state parameter. The invention also relates to an arrangement which is characterized in that includes an intermediate pressure port (4) in the expander (1) between the inlet port (2) and

the outlet port (3), in that it further includes a branch line (18) which connects the intermediate pressure port (4) with the inlet line (11) at a branching point (21) and includes a valve (19) in the branch line (18).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.